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[0012] <First Embodiment>   FIG. 2 is a functional block diagram of the gateway server 104 according to an first embodiment of the present invention, including an address information reception unit 201, an address information storage unit 202, and a transfer unit 203.

[0013] The address information reception unit 201 receives the address information which is the correspondence information between an address on the network of a display device and an address on the network of a portable device. The display device is a device which displays information, and the display device usually displays the information with the resolution higher than of the portable device.   In the present invention, the display device is not in a state in which it can be used only by a specific person being can be widely used by the public, thus the display device may be referred to as a public display device.   As a matter of course, the present invention may be implemented even if the display device is installed at home in which it is used only by a specific person.   The portable device is a device that can easily be carried as typified by a mobile phone, and that can be connected to the network.   The address on the network is the information which uniquely identifies a display device or a portable device in the network, and it is, for example, an IP address.   The address information is the information that retains the correspondence relationship between an address on the network of the display device and an address on the network of the portable device.   For example, if the IP address of the display device is 133.139.210.94 and the IP address of the portable device is 210.43.194.223, the address information is the information of a pair of these IP addresses as shown in FIG. 3, and indicates that the information to be transmitted to 210.43.194.223 is to be transmitted to 133.139.210.94.

[0014] Furthermore, in FIG. 2, it is illustrated that the address information reception unit 201 receives address information from the network 102 to which the portable device 103 is connected, but it may be configured such that the address information is received from the network 105 to which the public display device 101 or the server 106 are connected.

1

[0015]   The address information storage unit 202 stores the address information which is received at the address information reception unit 201.

[0016]   The transfer unit 203 transmits for transfer the information transmitted from the network to the portable device to the display device associated with the portable device by the address information stored in the address information storage unit 202.   The display device that is associated by the address information with the portable device is a display device identified by the address on the network of the display device which is in pairs with the address on the network of the portable device retained by certain address information.   When address information is 300 as shown in FIG. 3, the display device identified by 133.139.210.94 is associated with the portable device identified by 210.43.194.223. Therefore, if numeral 300 in FIG. 3 is stored in the address information storage unit 202, and once the transfer unit 203 receives the information (packet) whose address is 210.43.194.223 as shown in numeral 401 of FIG. 4 from the network 105, the information (packet) whose address is rewritten to 133.139.210.94 is transferred to the network 105 to which the public display device 101 is connected, and the information transmitted towards the portable device is transferred to the display device.

[0017]   Accordingly, the transfer unit 203 transmits the information received from the network 105 to the network 105 to which the public display device 101 is connected, but the information may also be transmitted to the portable device 103 which is the original destination.   That is, the transfer unit 203 may be configured to transmit the information to the portable device which is the original destination while transmitting the information to the display device.   Due to this configuration, the same information is transmitted to both of the display device and the portable device, and thereby a link can be followed on the portable device at hand while viewing the WEB page displayed on the display device.

[0018]   The gateway server 104 serves as a device which implements the public display method.   In other words, the public display method includes an address information receiving step, an address information storing step, and a transferring step.   FIG. 5 is a flow chart describing the processes of the public display method.

[0019]   In step S501, the address information is received.   That is, it is an address

2

information receiving step which receives the address information which is the correspondence relationship between an address on the network of the display device and an address on the network of the portable device.

[0020] In step S502, the address information which is received in step S501 is stored. That is, it is the address information storing step.

[0021] In step S503, it awaits until the information that is transmitted towards the portable device is received.

[0022] In step S504, information is transferred in accordance with the address information. That is, it is the transferring step which transmits for transfer the information transmitted from the network to the portable device to the address on the network of the display device associated by the address information stored in the address information storing step S502 with the address on the network of the portable device.

[0023] FIG. 6 is a functional block diagram of the public display device 101 in the present embodiment. The public display device 101 includes an information reception unit 601 and a display unit 602.

[0024] The information reception unit 601 receives the information transmitted for transfer from the gateway server 104. That is, the information reception unit 601 receives the information transmitted for transfer from the transfer unit 203 of the gateway server 104 via the network 105.

[0025] The display unit 602 displays the information which is received at the information reception unit 601.

[0026] As a method of transmitting the address information to the gateway server 104, the address information may be transmitted from the public display device to the gateway server 104 by operating a public display device. Also, there is a method of transmitting the address information from the portable device 103. That is, when the portable device 103 requests information and displays the information on its own device, the destination address of the information request is included in the portion of numeral 701 of a header of the information request, and

3

the transmission source address which is an address on the network of the own device is included in the portion of numeral 702 of the header, as shown in FIG. 7 as a normal telegram header. On the other hand, when the information is displayed on the public display device, a destination address is included in the portion of numeral 703, a transmission source address is included in the portion of numeral 704, and an address on the network of the public display device is included in the portion of numeral 705 as a transfer destination address, as an extended telegram header. When a gateway server receives such an extended telegram that has an extended telegram header, it is taken that the address information is constituted by in the portions of 704 and 705 of the extended telegram header, thereby storing that address information.

[0027] The transfer destination address included in the extended telegram header may be input by an owner of the portable device with using a hand, or may be obtained by the portable device communicating with the public display device as described in an "second embodiment".

[0028] By configuring the gateway server 104 with the public display device 101, the information that is originally to be displayed on the portable device can be displayed on the public display device 101 which has a display function of higher resolution. Also, the communication speed from the gateway server 104 to the public display device 101 can be made faster than the communication speed from the gateway server 104 to the portable device 103, thereby enabling a high-speed display. Moreover, the WEB page that is described in ordinary HTML can be viewed by operating the portable device.

4